

Claims

1. A thin film layer structure for use in magnetic recording comprising:
a pre-seed layer of CrTiAl having an amorphous or nanocrystalline
5 structure.
2. The thin film structure of claim 1 further comprising a seed layer of RuAl
above the layer of CrTiAl, the RuAl having a B2 crystallographic structure.
- 10 3. The thin film layer structure of claim 1 wherein the layer of CrTiAl is
approximately 5 to 20 at.% aluminum.
4. The thin film layer structure of claim 1 wherein the layer of CrTiAl is deposited
on a circumferential textured nonmetallic substrate.
- 15 5. A magnetic thin film storage medium comprising:
a substrate;
a layer of CrTiAl deposited on the substrate;
a layer of RuAl over the layer of CrTiAl; and
20 at least one underlayer over the layer of RuAl
at least one magnetic layer over the underlayer.
6. The magnetic thin film storage medium of claim 5 wherein the CrTiAl has from
5 to 20 at.% aluminum.
- 25 7. The magnetic thin film storage medium of claim 5 wherein the CrTiAl has
approximately from 5 to 20 at.% aluminum with the remainder being
approximately equal atomic percentages of chromium and titanium.
- 30 8. The magnetic thin film storage medium of claim 5 wherein the RuAl has a B2
crystallographic structure.

9. The magnetic thin film storage medium of claim 5 wherein the CrTiAl is approximately from 10 to 30 nm thick.

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10. A method of fabricating a magnetic thin film storage medium comprising the steps of:

depositing a layer of CrTiAl on a substrate;

depositing a layer of RuAl over the layer of CrTiAl; and

10 depositing a plurality of layers over the layer of RuAl, including at least one magnetic layer.

11. The method of claim 10 wherein the CrTiAl has from 5 to 20 at.% aluminum.

15 12. The method of claim 10 wherein the CrTiAl has approximately from 5 to 20 at.% aluminum with the remainder being approximately equal atomic percentages of chromium and titanium.

13. The method of claim 10 wherein the RuAl has a B2 crystallographic structure.

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14. The method of claim 10 wherein the CrTiAl is from approximately from 10 to 30 nm thick.

15. A disk drive comprising:

25 a magnetic transducer including a read and a write head;

a spindle; and

a magnetic thin film disk mounted on the spindle, the magnetic thin film disk including a layer of CrTiAl followed by a layer of RuAl and at least one magnetic layer.

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16. The disk drive of claim 15 wherein the CrTiAl has from 5 to 20 at.% aluminum.

5 17. The disk drive of claim 15 wherein the CrTiAl has approximately from 5 to 20 at.% aluminum with the remainder being approximately equal atomic percentages of chromium and titanium.

10 18. The disk drive of claim 15 wherein the RuAl has a B2 crystallographic structure.

19. The disk drive of claim 15 wherein the CrTiAl is approximately from 10 to 30 nm thick.